The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-16, 18-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moczygemba et al. (US 5,705,569).

Patentees disclose a polymodal styrenic block copolymer composition in which 3 consecutive charges of initiator and styrene are used followed by a mixed charge of styrene/diene in specific amounts. Note Table 5 in this regard. While applicants various molecular weight ratios are not disclosed, those skilled in the art would deduce such ratios approximately based on the disclosure of Table 5 in that it is assumed in the art that one mole of alkyl lithium initiator initiates one mole of polymer chains. Thus the top molecular weight resulting from a particular charge of alkyllithium and monomer would be proportional to the amount of monomer and inversely proportional to the total amount of monomer added with the charge of alkyl lithium (or immediately after) and any charges of monomer added with subsequent charges of alkyl lithium (adjusted for the fact that some of the monomer will polymerize with the subsequent charge of alkyl lithium as well as with the polymeric species resulting from the first charge). A minimum ratio of M1/M3 for the ranges in Table 5 by for instance selecting an initiator level of 0.001, 0.002 and 0.002 for the first, second and third charges respectively and an amount of monomer for the first second and third charges of 48,12 and 6 (such as falls within the disclosure of Table 5) calculates as 16 which assumes that none of the

monomer added subsequent or with the second charge of alkyl lithium adds to the species resulting from the first alkyl lithium addition. Given that there would be 4 times as much active lithium present in the form of second and third charges of alkyl lithium, this assumption would more than reasonably appear to indicate M1/M3 less than 25 as required by the claims. Linear block copolymers would result from coupling with difunctional coupling agents such as are disclosed by the patent and as would be understood by those skilled in the art. With re to applicants polydispersities, polydispersities resulting from a single charge of alkyl lithium and a single charge of monomer are understood by those skilled in the art to be generally fairly narrow and applicants lower value of polydispersity of 3.25 is roughly double of what those skilled in the art would expect from a single charge of styrene and butyl lithium. However given the multiple additions of alkyl lithium and monomer, those skilled in the art would assume substantial broadening of molecular weight distribution for the above proposed charge sequence such than molecular weight distribution would lie within the metes and bounds of the claims. While the examples of the patent do not reasonably appear to inherently produce styrene blocks with applicants M1/M3, for the reasons set out above those skilled in the art would assume that applicants characteristics would be inherently produced by choice of monomer and imitator amounts falling within the ranges of Table 5. Hence to arrive at applicants composition based on the patent disclosure would have been obvious to a practitioner having an ordinary skill in the art at the time of the invent in the expectation of adequate results absent any showing of surprising or unexpected results.

The Declaration under 37 CFR 1.132 filed 4-16-09 is insufficient to overcome the rejection of claims 1-3, 5-16 and 18-28 based upon Moczygemba ('569) as set forth in the last Office action because: Impact strength would be expected to be higher for applicants compositions since applicants copolymers have substantially more butadiene (a rubbery material such as is known to enhance impact strength) and therefore allegations regarding impact strength are not unexpected. Applicants characteristics other than impact strength do not appear to be significantly improved from those of Moczygemba.

Claims 4 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicant's arguments filed 4-16-09 have been fully considered but they are not persuasive. As set out in the previous rejection, .applicants various limitations pertaining to M1, M2, M3, S1, S2, S3 and polydispersity would be recognized by those skilled in the art as inherently resulting from selection of specific amounts of monomer and initiator and based on the fact known in the art that initiation of polymerization of anionically polymerizable monomers using one mole of alkyl lithium results in one mole of polymer chain. Applicants 131 declaration in fat indicates that the limitations of the claims are largely met by the run in Table 19 of Moczygemba, and with respect to those limitations not met (such as styrene/butadiene concentration), such are suggested elsewhere in the specification of Moczygemba. With regard to claims 4 and 17, to arrive

at these compositions would at the very least require undue picking and choosing from various disclosures and accordingly these claims are allowable over the prior art. The instant claims do not exclude more that 3 charges of styrene. It is immaterial to a rejection under 35 USC 103 that an applicants may have been concerned with other goals (such as transparency or impact strength) than that of a reference and in any case applicants 132 declaration does not indicate superior transparency. With regard to superior impact strength, such is not unexpected for compositions having higher levels of butadiene as polybutadiene is known in the art to be rubbery and rubbery materials are known to confer impact resistance to compositions containing it. The final charge of butyl lithium in step 3 of the run of Table 19 would yield a polymeric species with molecular weight of only a bit more than 50,000 and patentees specification indicates that more alkyllithium (such as those skilled in the art realize results in molecular weights which are inversely proportional to the amount of) or less monomer can be added and therefore applicants characteristics of claim 5 are suggested tby the reference and would be due to uncoupled polymer remaining after the final charge. With regard to claims 6 and 19, a molecular weight of about 200,000 can be calculated for the first charge species if 100 parts of monomer were polymerized by the first charge. The “GPC area composition” in Table 19 indicates that Peak 1 (presumably due to the first charge of butyl lithium) is only about 2/3 of the total polymer and hence the molecular weight due to the first charge would be 2/3 of 200,000, somewhat lower than required. However, the patent specification discloses use of amounts of butyl lithium encompassing a third less or amounts of monomers which can include a third more than

in Table 19 such as encompassing in the required molecular weights. Similarly, with regard to the other limitations referred to by applicants, such vary in a minor amount from the run of Table 19 and are suggested by the broader ranges of patentees' specification. Applicants argue unexpected results but as set out above applicants improvement of impact strength is not unexpected.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication should be directed to Jeffrey C. Mullis, 9-5pm, M-F at telephone number 571 272 1075.

Jeffrey C. Mullis
Primary Examiner
Art Unit 1796

JCM

8-4-09

/Jeffrey C. Mullis/

Primary Examiner, Art Unit 1796